

WHAT IS CLAIMED IS:

- 1 1. A method for managing access to an I/O device, said
2 method comprising:
3 communicatively coupling first and second nodes, having
4 respective first and second bus controllers, and a logical I/O
5 device by means of a bus and said first and second controllers;
6 receiving on said first controller a request to reserve said
7 logical I/O device; and
8 communicating by means of said bus from said first to said
9 second controller a reservation request for said logical I/O device
10 for execution by said second controller, in response to said
11 receiving.
- 1 2. The method of claim 1, further comprising the step of
2 reserving said logical I/O device for said first node within
3 said second controller, in response to said reservation request
4 communication.
- 1 3. The method of claim 2, wherein said step of reserving
2 comprises:
3 determining whether said logical I/O device is already
4 reserved within said second controller;
5 communicating a response, indicating failure to reserve said
6 logical I/O device, to said first node when said logical I/O device
7 is already reserved; and
8 otherwise, reserving said logical I/O device for said first
9 node within said second controller, and communicating to said first
10 node a response indicating success in reserving said logical I/O
11 device.

1 4. The method of claim 3, further comprising the steps of:
2 receiving said response to said communicated reservation
3 request:
4 aborting the method for managing access when said response
5 indicates failure to reserve and said first controller is
6 subordinate to said second controller; and
7 otherwise, delaying and communicating again a reservation
8 request for said logical I/O device when said response indicates
9 failure to reserve and said first controller is dominant to said
10 second controller;

11 otherwise, responding, indicating success, to said received
12 reservation request.
end

1 5. The method of claim 1, wherein said step of
2 communicatively coupling comprises
3 communicatively coupling said first and second nodes and said
4 logical I/O device depending from a multi-logical-device, third
5 controller by means of said bus and said first and second
6 controllers.

thus
1 6. The method of claim 1, wherein after said step of
2 receiving and before said step of communicating, the following steps are
3 performed:

4 in response to said reservation request, determining whether
5 said logical I/O device is already reserved within said first
6 controller, and aborting said method for managing access when said
7 logical I/O device is already reserved; and

8 otherwise, reserving said logical I/O device for said first
9 node within said first controller.

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1 7. A computer-readable medium for data storage wherein is

1 located a computer program for causing a first node in a computer system,
2 having a first bus controller, to manage access to a logical I/O device
3 in said computer system by

4 receiving on said first controller a request to reserve said
5 logical I/O device; and

6 communicating by means of a bus from said first controller to
7 a second controller of a second node a reservation request for said
8 logical I/O device for execution by said second controller, in
9 response to said receiving.

1 8. The computer-readable medium of claim 7, wherein said
2 computer program causes access management by further
3 reserving said logical I/O device for said first node within
4 said second controller, in response to said reservation request
5 communication.

1 9. The computer-readable medium of claim 8, wherein said
2 step of reserving in said computer program comprises
3 determining whether said logical I/O device is already
4 reserved within said second controller;
5 communicating a response, indicating failure to reserve said
6 logical I/O device, to said first node when said logical I/O device
7 is already reserved; and
8 otherwise, reserving said logical I/O device for said first
9 node within said second controller, and otherwise, reserving said
10 logical I/O device for said first node within said second
11 controller, and communicating to said first node a response
12 indicating success in reserving said logical I/O device.

1 10. The computer-readable medium of claim 7, wherein after
2 said step of receiving and before said step of communicating in said

1 computer program, the following steps are performed:
2 in response to said reservation request, determining whether
3 said logical I/O device is already reserved within said first
4 controller, and aborting said method for managing access when said
5 logical I/O device is already reserved; and
6 otherwise, reserving said logical I/O device for said first
7 node within said first controller.

11. A computer system comprising:
1 first and second nodes having respective first and second bus
2 controllers, said first controller comprising
3 the computer-readable medium of claim 7; and
4 a CPU, coupled to said medium, for executing said
5 computer program in said medium;
6 an I/O device; and
7 a bus communicatively coupling said first and second nodes
8 and said logical I/O device by means of said first and second
9 controllers.

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12. A method for managing access to a logical I/O device,
1 said method comprising:
2 communicatively coupling first and second nodes having
3 respective first and second bus controllers, and a logical I/O
4 device by means of a bus and said first and second controllers;
5 receiving on said first controller a request to release said
6 logical I/O device; and
7 communicating by means of said bus from said first to said
8 second controller a release request for said logical I/O device for
9 execution by said second controller, in response to said receiving.

13. The method of claim 12, wherein before said step of

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1 receiving, the following steps are performed:
2 receiving on said first controller a request to reserve said
3 logical I/O device; and
4 communicating by means of said bus from said first to said
5 second controller a reservation request for said logical I/O device
6 for execution by said second controller, in response to said
7 receiving a reservation request.

1  14. The method of claim 12, further comprising the step of
2 releasing said logical I/O device within said second
3 controller, in response to said release request communication.

1 15. The method of claim 12, wherein said step of
2 communicatively coupling comprises
3 communicatively coupling said first and second nodes and a
4 logical device depending from a multi-logical-device, third
5 controller by means of said bus and said first and second
6 controllers.

1 16. A computer-readable medium for data storage wherein is
2 located a computer program for causing a first node in a computer system,
3 having a first bus controller, to manage access to a logical I/O device
4 in said computer system by
5 receiving on said first controller a request to release said
6 logical I/O device; and
7 communicating by means of a bus from said first controller to
8 a second controller of a second node a release request for said
9 logical I/O device for execution by said second controller, in
10 response to said receiving.

1 17. The computer-readable medium of claim 16, wherein said

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end

1 computer program manages access by further
2 releasing said logical I/O device within said second
3 controller, in response to said release request communication.

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18. A computer system comprising:
1 first and second nodes having respective first and second bus
2 controllers, said first controller comprising
3 the computer-readable medium of claim 16; and
4 a CPU, coupled to said medium, for executing said
5 computer program in said medium;
6 an I/O device; and
7 a bus communicatively coupling said first and second nodes
8 and said logical I/O device by means of said first and second
9 controllers.
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19. An apparatus for managing access to a logical I/O
device, said apparatus comprising:
1 means for communicatively coupling first and second nodes,
2 having respective first and second bus controllers, and a logical
3 I/O device;
4 means for receiving on said first controller a request to
5 reserve said logical I/O device; and
6 means for communicating from said first to said second
7 controller a reservation request for said logical I/O device for
8 execution by said second controller, in response to said receiving.
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20. An apparatus for managing access to a logical I/O
device, said apparatus comprising:
1 means for communicatively coupling first and second nodes,
2 having respective first and second bus controllers, and a logical
3 I/O device;

1 means for receiving on said first controller a request to
2 release said logical I/O device; and

3 means for communicating by means of said bus from said first
4 to said second controller a release request for said logical I/O
5 device for execution by said second controller, in response to said
6 receiving.

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